

## Information

Proposed Interim Remedial Action  
Solar Evaporation Ponds

The U.S. Department of Energy has developed a *Proposed Interim Measure/Interim Remedial Action Decision Document for Operable Unit No. 4, the Solar Evaporation Ponds* at the Rocky Flats Plant. The document describes an approach for storing and treating the water in the solar ponds and the contaminated ground water collected in an interceptor trench system to the northeast of the ponds. The solar evaporation ponds are located in the central portion of the Rocky Flats Plant approximately two miles west of Indiana Street (see diagram).

**Background**

Operable Unit No. 4 is made up of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C. Beginning in the late 1950s, the ponds were used to store and evaporate low-level radioactive process water containing high concentrations of nitrates and treated acidic wastes. The sludge and sediments that resulted from the process were periodically removed and disposed of at the Nevada Test Site.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle ground water contaminated by the ponds and to prevent natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger, interceptor trench system, which recycles approximately four million gallons of ground water a year back into the solar evaporation ponds.

No additional process water has been pumped into the ponds since 1986. The interceptor trench system collects and recycles ground water into the solar evaporation ponds continuously. Presently, only the 207B north solar evaporation pond receives contaminated ground water collected by the interceptor trench system.

The Agreement in Principle between the Department of Energy and the State of Colorado requires that the solar evaporation ponds be closed and cleaned. The Interagency Agreement between the Department of

Energy, the U.S. Environmental Protection Agency, and the Colorado Department of Health also drives the investigation, characterization, and eventual remedial approach for the solar ponds area. Due to the potential contamination at the site, these agencies have determined that the solar evaporation ponds are a top priority for remediation.

In order to proceed and characterize the level of contamination at the site, approximately eight million gallons of excess liquid in the ponds must be removed. The removal of this liquid and the redirection and treatment of the ground water collected by the interceptor trench system are the focus of this interim remedial action.

**Description**

This document describes the Department of Energy's proposed approach to storing and treating the excess water at Operable Unit No. 4. This interim remedial action will be conducted under the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act. It will support partial closure activities required at the site in accordance with the Agreement in Principle and applicable regulatory guidance documents. Once this step is completed, the contaminated sludge remaining in the ponds will be mixed with concrete to form solid blocks called "pondcrete." The pondcrete blocks will be shipped to the Nevada Test Site for disposal.

The proposed interim remedial action calls for the following steps:

- Discontinue pumping contaminated ground water collected in the interceptor trench system to the solar evaporation ponds. The intercepted ground water would be redirected temporarily to three storage tanks to be built near the ponds to collect the interceptor trench system water. The water will then be pumped to an evaporator system.
- Removal of approximately eight million gallons of excess liquid from the ponds. Natural evaporation of pond liquids accounts for only two million gallons.

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per year. Portable evaporators will be used to accelerate the removal of the liquids.

Initially, the evaporators will be used to treat the eight million gallons of excess water in the solar ponds. The system will continue to be used to treat approximately four million gallons of ground water per year pumped from the interceptor trench system.

The evaporator system is completely contained and will be located within a building on plantsite. Vapors from the evaporation process will not be emitted into the atmosphere. Vapors will be directed to a condenser. The distillate will be pumped into a temporary holding tank and tested for quality. After meeting clean water specifications, the distillate will be pumped into the Rocky Flats raw water system. This water is used for industrial purposes on plantsite. The precipitate (salts) left from the evaporation process will be mixed with concrete to form "saltcrete," which will be disposed of in the same manner as pondcrete.

### Status of the Plan

The public comment period for the Solar Evaporation Ponds interim remedial action is from September 9, 1991 to November 9, 1991. A public meeting on this interim remedial action will be held from 7:00 to 9:00 p.m. on Wednesday, October 30, 1991, at the Westminster Recreation Center, 10455 Sheridan Boulevard. Written comments can be directed to:

Solar Ponds Comments  
Beth Brainard, Public Affairs Officer  
U.S. Department of Energy  
Rocky Flats Office  
P.O. Box 928  
Golden, Colorado 80402-0928

Copies of the document are available for review at the following information repositories:

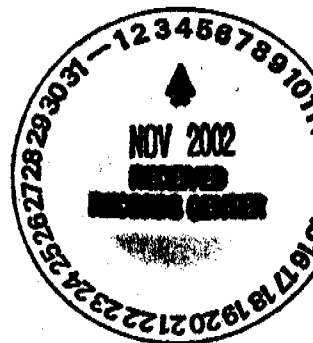
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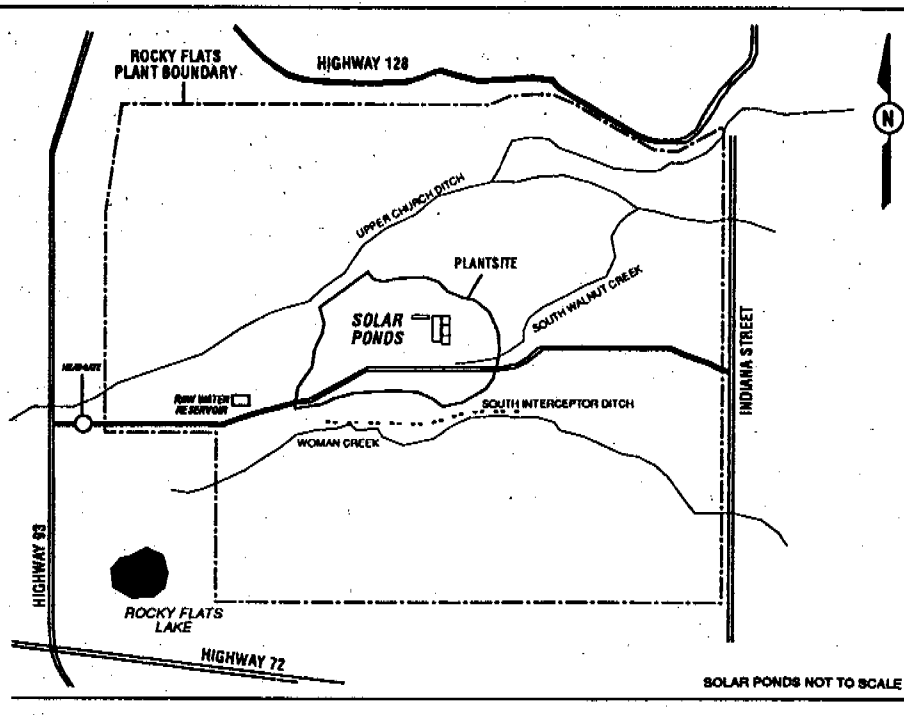
Rocky Flats Environmental Monitoring Council  
1536 Cole Boulevard  
Suite 325, Building 4  
Denver West Office Park  
Golden, Colorado 80401  
303-232-1966-by appointment only

United States Department of Energy  
Freedom of Information Office  
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FACT SHEET  
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